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The Pharmacy Gaze: Bodies in Pharmacy Practice

Abstract

The body is a central feature of pharmacy practice. Despite this and the increased sociological focus on bodies in health and social care practice, the nature of the body and the work undertaken upon it in pharmacy have not been explored. Drawing on semi-structured interviews with hospital and community pharmacists, this paper explores the ways in which bodies are constructed and managed in these two practice contexts. It is argued that pharmacists see patient bodies in particular ways given their expertise in medicines, which is conceptualised here as the 'pharmacy gaze'. The notion of 'complexity', as a way of constructing the body, and the generation of 'algorithmic bodies', as a way of managing this complexity, are shown to be central to the pharmacy gaze in both hospital and community contexts. In hospitals, complexity was located within a singular body which is increasingly rationalised to reduce costs and toxicity. In community practice, complexity arose from the multiplicity of bodies which pharmacists interact with in their multifaceted role as retailers, dispensers and public health practitioners. The paper concludes by reflecting on the ways in which current UK health policy may broaden the body work that English pharmacists undertake.

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Introduction

The body is subject to much contemporary sociological attention, so much so that 'many bodies... now roam the sociological landscape' (Williams 2003: 3). Body work, that is to say the body

as the object of labour, has been a particularly pervasive analytical framework within medical sociology. Scholars have been interested in the production of the patient body in, amongst others, care work (Twigg 2000), complementary and alternative medicine (Gale 2011), intensive care (Carmel 2012) and sexual therapy (Cacchioni and Wolkowitz 2011). Despite this increased focus on the body in medical and healthcare practices, the body in pharmacy has been relatively neglected. For example, in their introduction to a special issue of this journal on body work in health and social care, Twigg et al. (2011: 171) argue that body work is a central component of many medical occupations such as ‘doctors, nurses, dentists, hygienists, paramedics and physiotherapists’ but overlook the centrality of the body to the work of pharmacists.

The body is, however, fundamental to pharmacy practice as the entity to which medicines are administered and within which medicines’ pharmacological action occurs. The fields of pharmacokinetics (what effects the body has on drugs) and pharmacodynamics (what effects drugs have on the body) are, for example, central to pharmacists’ training and everyday decision-making. Moreover, community pharmacists in England have become increasingly involved in clinical and public health activities, such as providing glucose and blood pressure testing, supporting weight management and promoting healthy lifestyles (see Methodology for an outline of the English pharmacy system), which has broadened the ways in which pharmacists in this setting engage with the body. This paper is concerned with the construction of the body in English hospital and community pharmacy practice and the ways in which changes in the organisation of pharmacy practice alter pharmacists’ modes of engagement with bodies. It is argued that pharmacists cultivate a particular way of looking at or ‘seeing’ patient bodies, which is referred to here as the ‘pharmacy gaze’.

It is argued that the pharmacy gaze, and the body which it constructs, is highly related to the particular context in which pharmacy practice is performed. In particular, hospital and community pharmacy produce different sorts of bodies as a result of the divergent structures of practice,

illnesses, medicines and technologies found in these settings (Bhakta 2010). The notion of bodily complexity is shown to be common to both practice settings, although the root of this complexity differs between bodies in hospital and community contexts. The use of testing devices to produce what is called here 'algorithmic bodies' is also common across both settings.

The paper's focus on pharmacists' ways of seeing, or gazing at, the body sits with the work of Jewson (1976) and Pickstone (2000) in examining the constitution of the body by practitioners. The notion of 'gazing' in medical practice does of course evoke Foucault's (1975) 'clinical gaze', which highlighted limits to 'orthodox' medicalisation critiques and argued for the wholly socially constituted nature of the body and disease (see Lupton 1997). Unlike Foucault's clinical gaze, however, the pharmacy gaze is shown here to be largely unconcerned with the process of diagnosis which reflects pharmacists' primary occupational focus on medicinal products. This not to say that pharmacists do not perform diagnostic work. Rather, particularly in the community setting, pharmacists are often involved in determining the potential causes of ill-defined symptoms and advising on the most appropriate treatments. Such diagnostic work, however, tends to centre on minor acute conditions requiring immediate, rather than long-term, treatment and is rarely formally recorded (for example in patient medical records) in the way that physician-centric diagnosis is.

Moreover, the extent to which the pharmacy gaze can be understood as a tool of medical power and domination, as is suggested by Foucault's clinical gaze, is also less straightforward. While Foucault draws attention principally to the discursive repertoires that provide the power and authority of the clinical gaze, here the pharmacy gaze focuses our attention on pharmacists' role in medicines' use, the rationing thereby of healthcare resources, encouraging concordance in patient medicine taking and encouraging patients to become lay managers of their own health.

In developing this analysis, this paper contributes to the sociology of pharmacy, which has previously neglected analyses of the body and makes a novel contribution to the extant literature on bodies in professional practice, which has previously excluded pharmacy. The notion of algorithmic

bodies, moreover, represents a novel way of understanding the management of the body that may provide a useful framework for analysing body work in other medical and healthcare practice contexts.

Pharmacy and the Body

Although pharmacists in England play an important role in patients' experience and management of health and illness, their everyday work is not as widely theorised within sociology as other healthcare practices. In particular, there has been a limited focus on the body in different pharmacy practice settings. This paper argues that pharmacists' primary focus on medicines necessitates a symbolic engagement with the body, as the entity to which medicines are being administered. Given the financial implications of administering inappropriate medicines, it is shown that the body is increasingly standardised through testing devices and numerical outputs, which are used in medicines decision-making. Moreover, it is argued that the expansion of the role of community pharmacists into more clinical and public health activities, such as providing testing services and healthy living support, has incorporated new work tasks centred on engagement with the physical patient body. This paper suggests that pharmacists in both hospital and community settings cultivate a particular way of seeing patient bodies given their expertise in medicines. Crucially, the nature of bodies produced through the pharmacy gaze is highly contingent on the context in which *pharmacy practice is performed*. As such, the divergent organisation of pharmacy in hospitals and in the community is shown to be key to the bodies that are thereby produced.

Body work is an increasingly pervasive analytical framework in sociology (Gimlin 2007, McDowell 2009, Wolkowitz 2006). Shilling (2011) argues that this interest in bodies can be seen in the works of Marx, Weber, Durkheim and Mauss (1973) and warns against an 'amnesia' regarding

the classical roots of the concept. In the context of contemporary health and social care practices, body work is defined by Twigg et al. (2011: 173) as ‘work that focuses directly on the bodies of others, who thereby become the object of the worker’s labour’. Body work is, then, most commonly characterised by hands-on, intimate labour with physical bodies. This sort of work is often understood as ‘dirty’ work and is, therefore, highly gendered, classed and racialised and mostly carried out by lower class, ethnic minority women (Neysmith and Aronson 1997, Twigg 2000, Twigg et al. 2011). Kerr (2013), however, suggests that too narrow a definition of body work risks overlooking types of labour that may include absent bodies or those rendered visible through technology (see Måseide, 2011). She suggests that in the case of assisted conception, practitioners work with imagined bodies in determining ‘who gets treatment and how it is delivered’ (Kerr, 2013: 476). These imagined, absent bodies are, nonetheless, a key part of everyday work and play a significant role in organising care. Given this, she suggests that the notion of body work be broadened to include work concerned with, but often remote from, patient bodies.

Taking the cue from Kerr (2013), body work is taken here in its broader sense, as involving labour which is concerned with the body but does not necessitate hands-on activities. As such, it is shown that much of pharmacists’ work involving bodies is symbolic rather than physical, although the changes to the role of community pharmacists are shown to necessitate new forms of physical contact with patient bodies. In employing the notion of body work to the context of pharmacy this paper exemplifies the broad application of the framework to work activities involving bodies which are implicitly, if not physically, present.

In addition, the paper speaks to Twigg et al.’s (2011) call for more comparative analysis of body work. It also contributes to the growing, although still comparatively limited, sociology of pharmacy. This literature has historically focused on pharmacists’ precarious professional identity and status, with community pharmacists’ dual, and possibly conflicting, role as retailers and health

care practitioners being a particularly pervasive theme (Birenbaum 1982, Denzin and Mettlin 1968, Edmunds and Calnan 2001, Harding and Taylor 1997).

Whilst such a focus on professional status is undoubtedly important for sociological analyses of pharmacy, Dingwall and Wilson (1995: 126) suggested that it is 'far more profitable to focus attention on finding out just what kind of occupation pharmacy is than on sitting in judgement on its status claims'. Rather than focusing on the extent to which pharmacists have control over drugs, Dingwall and Wilson (1995: 119) examined the ways in which pharmacists inscribe inert chemical compounds with social and cultural meanings to become a 'human product with a symbolic and cultural dimension'. For Barber (2005) pharmacists' pharmacological expertise and the symbolic constitution of medicines that it enables characterise the distinctiveness of pharmacy practice through what he terms the 'pharmaceutical gaze'. He conceptualised the pharmaceutical gaze as the 'ability to see into the properties of medicines, and predict their effects' which 'no other profession has'.

Whilst this focus on what pharmacists *do* and the symbolic and constructive role that they play has engaged with pharmacists' symbolic construction of medicines, much less attention has been paid to the construction of the patient body to which medicines are administered. This paper suggests that the process of imbuing inert chemicals with social meanings is one which necessarily involves the construction of medicines *and* patient bodies. Pharmacy's focus on medicinal 'stuff', particularly around risk and potential adverse effects, necessarily brings the patient body into being as it is within the patient body that medicinal 'stuff' is acting and through the patient body that effects (both clinically beneficial and adverse) are expressed.

Given this, this paper demonstrates that an analysis of what pharmacists *do*, in the vein of Dingwall and Wilson (1995) and others, needs to be attentive to the construction of the patient body within the performance of pharmacy practice. This is also echoed by Ryan et al. (2005: 51) who suggest that pharmacy's concern with medicines compliance, concordance and adherence makes it

‘fertile ground’ for an exploration of the body within it. By examining the particularities of bodies and body work in English pharmacy practice, this paper make a novel contribution to the literatures on body work and the sociology of pharmacy.

Methodology

Context: Pharmacy in the UK

At the time of the 2008 pharmacy workforce census (Seston and Hassell 2009), there were 48,749 registered pharmacists in the UK (England, Scotland and Wales). Over 90% of these were concentrated in community (71%) and hospital (21.4%) practice settings with the remainder working in primary care (7.2%), academia (2.8%) and industry (4.1%)¹. This paper is concerned with pharmacists working in hospital and community settings in England.

Since the 1980s, the structures of both community and hospital pharmacy practice in England have altered considerably with practice moving, both physically and symbolically, out of the dispensary and into more clinical work on the shop floor and at the patient bedside (Anderson 2001).

In the hospital setting, this increased clinical work is characterised by in-patient ‘counselling’ about medicines at the bedside, what has previously been known as ‘ward pharmacy’ (Stone and Curtis 2002). In the community setting, it has involved the expansion of the Community Pharmacy Contractual Framework (the ‘Pharmacy Contract’) to include more clinical services such as prescribed medicines management, common ailments services and the promotion of healthy lifestyles (Harding and Taylor 1997). This has broadened the scope of community pharmacy work to incorporate increased work with physical patient bodies. The community Pharmacy Contract currently incorporates three types of services; Essential, Advanced and Enhanced. ‘Essential services’

are provided by all pharmacies and include dispensing, repeat dispensing and medications disposal. 'Advanced services', such as Medicines Use Reviews (MURs) and New Medicines Services (NMS), can be provided by pharmacists once practitioners have been accredited to carry out such work. 'Enhanced services' are commissioned locally and include activities such as needle exchange programmes and Chlamydia screening. Community pharmacies are remunerated a nationally standardised amount (set by the UK Pharmaceutical Services Negotiating Committee) for each service that they carry out (i.e. each prescription they dispense or MUR they complete).

These changes to the everyday work of pharmacists have generated a sociological interest in pharmacy practice, particularly around the effect of pharmacists' extended role on practice boundaries (Mesler 1991) and professional identities (Harding and Taylor 1997). Much less attention, however, has been paid to the ways in which this clinical work has broadened pharmacists' engagement with patient bodies.

The Study

The findings presented here are drawn from a larger study of pharmacogenetics (PGx), or stratified medicine, in hospital and community pharmacy practice in England (Jamie, 2012). The purpose of this study was to examine the ways in which PGx may impact on the everyday work of pharmacists and their relationships with patient bodies. It has been argued elsewhere that PGx may have significant effects on the everyday work of pharmacists in hospital and community settings (Clemerson et al. 2006, Jamie 2011, Ryan et al. 2004). In particular, it is likely that PGx will generate a more molecular approach to patient bodies where toxicity risks are increasingly linked to, and controlled through, genetic markers.

Given this, the study aimed to examine the ways in which PGx in pharmacy was perceived by practitioners involved in PGx research and pharmacy practice. The study was concerned with three broad areas; the structure of contemporary English pharmacy practice; new technologies in hospital

and community practice; and the particularities of PGx in English pharmacy. The body was found to be a particularly salient theme cutting across all three of these areas. Although the topic of the body was not explicitly explored in the interviews, throughout the data analysis it was clear that the body is a central part of contemporary pharmacy practice. Moreover, it was also evident that the pharmacists' engagement with the body is not fixed and shifts along with the work of pharmacists themselves. The sub-themes of complexity and algorithms, as a framework for managing this complexity, were common to both hospital and community practitioners although enacted divergently across these contexts.

Data Collection

The data for this paper are drawn from semi-structured interviews with 20 English pharmacists, 10 of whom are hospital practitioners and 10 of whom are community pharmacists. These 20 respondents form part of a larger sample of 38 professionals recruited from a diversity of practice backgrounds for the larger study of the potential effects of PGx on pharmacy. The perspectives of this subset of participants are presented here as those most engaged with pharmacists' relationships with patient bodies.

Of the 10 hospital pharmacists, 2 were directors of pharmacy departments, 2 worked in specialist Oncology hospitals and 1 was currently a health economist who had previously worked as a hospital pharmacist. Of the 10 community practitioners, 9 worked in medium or larger multiple pharmacies and 1 was an independent pharmacy owner.

Hospital pharmacists were recruited using purposive and snowball sampling techniques. Six potential participants were identified for inclusion early on given the nature of their role or their involvement in PGx research or practice. Five of these potential participants were eventually

interviewed. One of the remaining hospital pharmacists was recruited through a community pharmacist and the other 4 were recruiting using one of the directors of pharmacy as a gatekeeper.

In the case of community pharmacists, 2 potential participants were identified because of their accredited special interest in Warfarin therapy given Warfarin's potential centrality to PGx research and practice (Wadelius and Pirmohamed 2006). One of these participants was eventually interviewed. Establishing, and maintaining, contact with community pharmacists was difficult as they rarely have personal email addresses online; tend only to respond to medical or general queries (for example, questions about opening times or testing services) through their practice email address; and receive large volumes of postal correspondence which means that non-essential mail is usually discarded. Moreover, approaching pharmacists in their branches, which was done on two occasions, did not yield participants. Professional bodies such as Local Practice Forums offer a potential way of accessing samples of community pharmacists but these were unresponsive to correspondence in this case. Therefore, the most effective method for recruitment proved to be through informal contact with gatekeepers and snowball techniques, through which method 8 of the community pharmacy participants were recruited. The remaining 1 community pharmacist was recruited through invitation letters sent to every pharmacy within one city in northern England. The study was presented to participants as focusing on the potential implications of PGx for pharmacists although the recruitment literature emphasised that pre-existing knowledge of genetics in general, and PGx more specifically, was not necessary. Instead, it was made clear to pharmacists that they would be asked to reflect on their experiences of pharmacy practice and its future. It may be that the relatively technoscientific topic of study was a factor in the low response rate for community pharmacists. However, those that were interviewed commented on the relevance of the project and of increasingly innovative areas of practice given pharmacy's perceived precariousness.

Interviews with hospital pharmacists were carried out in cafes during breaks or in offices during designated meeting times in the case of participants with access to office space. Interviews

with community pharmacists were carried out outside of working hours and premises, in cafes. Each interview lasted between 40 and 90 minutes, was recorded and transcribed verbatim by a professional transcriber. Although the notion of 'saturation' is ambiguous, interviews were carried out until no new ideas were emerging.

Data Analysis

The data were analysed thematically in two stages using an inductive approach and a combination of manual coding and Atlas.Ti software. Since the data were transcribed by a professional transcriber, a month was dedicated entirely to the process of repeatedly reading the data to achieve the familiarity with it which may have been lost through sub-contracting of transcribing work. Following this stage, the initial phase of data analysis identified the data pertaining to three broad categories of interest for the project; the structure of contemporary English pharmacy practice; new technologies in pharmacy practice; and the particularities of PGx in pharmacy practice. This analysis took an inductive approach which allowed for the identification of themes pertaining to pharmacy in particular settings as well as themes common to both hospital and community pharmacy.

A number of themes which intersected these broad categories of interest were identified. The body was the most salient theme to emerge where multiple practitioners made reference to patient bodies with varying degrees of explicitness. Within this, the sub-themes of complexity and the generation of bodily algorithms were identified as being common to both hospital and community practice, although enacted differently in these settings. The data suggested, then, that pharmacists cultivate a particular way of seeing and narrating the patient body based on their medicines expertise, the pharmacy gaze.

Findings

Context of Practice

The everyday work of pharmacy practice in hospital and community contexts is highly divergent in terms of the working structures, illnesses, medicines and technologies found in these different settings (Bhakta 2010). The context in which pharmacy work is performed was shown to be a key factor in the ways in which bodies are constructed through the pharmacy gaze in particular pharmacy settings. Despite these divergences, the notion of complexity and the generation of bodily algorithms through testing devices were common to pharmacists' relationships with patient bodies across both settings.

Bodily Complexity

The notion of bodies as complex entities was prevalent in both hospital and community pharmacy practice. In the hospital context, in-patient bodies were represented as singular but complex entities in need of closer expert management than those in community settings. Such complexity was often located within a poly-pharmacy regimen and the risk of drug-drug interactions and adverse effects that these carry. Hospital Pharmacist 10, who was currently a health economist but had previously practised as a hospital pharmacist, demonstrated this poly-pharmacy complexity in the case of transplant in-patients;

“People who were post-bone marrow transplantation and they’d be on quite extensive drug regimens... I’d go through their medications with them and help them about how to organise their 25 medicines a day” (HP 10)

As well as drug regimen, this bodily complexity was also linked with its particular illness and the field of medical expertise within which the patient body was being treated and managed. A notable example which was repeatedly drawn on in the interviews was the field of Oncology where the cancer patient body was understood as being particularly complex given the nature of cancer as an illness and the increased toxicity of Oncology medications, as an Oncology pharmacist suggested:

“The body is very complex so how does it handle the drugs? Effects from the tumour, effects from the patient’s body, the rate of liver metabolism” (HP 3- Oncology)

In Oncology, the prescribing and dispensing of medicines was represented as being a manifold process owing to the complexity of the cancer patient body and the effects that this complexity may have on the medicines’ effectiveness. In this way, the body and its complexities are brought into being by, and within, medication decisions.

The organisation of everyday work in hospital settings was thought to provide a structure within which this bodily complexity could be managed. The collaborative practice structure in English hospitals produces something of a collective practitioner gaze where diverse expertise acts collaboratively to construct and manage bodily complexity (also see May 1992). In other words, in hospital contexts where patients encounter multiple practitioners, the body becomes subject to

multiple practitioner gazes all of which construct it in particular ways given their field of expertise but all of which focus on the patient body as a single site for body work.

These practitioner gazes work together in order to understand the patient body and its complexities and develop the most effective therapy regime for it. As such, the pharmacy gaze and the way in which the patient body is constructed through it, was located as one of many practitioner gazes which operate in the hospital setting to manage bodily complexity and medicines toxicity, as Hospital Pharmacist 3 suggested in the case of Oncology practice;

“On the wards you’ll have the junior doctors, the nurses and pharmacy. So pharmacy is there to advise the both junior doctors and the nurses about medications and all sorts of things” (HP3, Oncology)

Given this model of collaboration in hospital settings, pharmacists engage with and negotiate practitioner gazes other than that of their own profession in their everyday work activities. This collaborative approach to constructing and managing the patient body is supported by hospital work structures in which practitioners are co-located within the physical boundaries of the hospital building and where policy, generally, allows all hospital practitioners to have access to patient medical records. A director of a hospital pharmacy department, for example, demonstrated the ways in which a multiplicity of practitioner gazes were collated in the patient medical record;

“It’s not just pharmacy but OTs [occupational therapists] and physios and all sorts of people who have access...all write in the patient’s notes” (HP 6- Director of Pharmacy)

This quote echoes Berg and Bowker's (1997) suggestion that patient medical records are fundamental to the everyday production of the patient body as it is within the patient medical records that multiple practitioner expertise are collated and an account of the patient body is produced. In this way, the patient medical record can be understood as a device through which bodily complexity is constructed and the pharmacy gaze enacted.

Patient medical records were something that community pharmacists also drew attention to. In the UK, community pharmacists have limited access to patient medical records, which Community Pharmacist 1 suggested limits pharmacists' access to an emergent singular body as in the hospital context;

"You cannot access a patient's data or medical information, at least nothing to do with their health"
(CP 1)

Given this restriction, the complexities of a singular patient body both in terms of diagnostic processes and prescription decisions are not as easily constructed by, and knowable to, community pharmacists as hospital practitioners. Nonetheless, bodily complexity still characterises community pharmacy practice in England, although it is rooted in the multiplicity of bodies, rather than the complexity of singular bodies.

Whilst most community pharmacy respondents talked of what might be understood as *patient* bodies, that is to say bodies with particular biological dysfunctions or illnesses in need of medication, many of the responses also highlighted the presence of what might be called a *public health body* in community pharmacy. This body is constructed less in terms of its illnesses and medications and more through the discourses of public health campaigns and the measurers of 'good health' that they present. These sorts of public health bodies are, then, rarely what might be

considered *patient* bodies in that it is health maintenance, rather than illness, which motivates visits to the pharmacy. Many of the respondents talked about the co-presence of patient and public health bodies creating a grey area in how to understand and refer to those using the pharmacy, as Community Pharmacist 10 demonstrated;

“If people are in for advice or testing, they’re not really patients...because there’s possibly nothing wrong with them. But they’re not customers either because they’re not actually buying things” (CP 10).

A third body, what might be understood as a *consumer body*, can also be seen in this quote. This body is positioned as distinct from the patient and public health bodies in using the pharmacy to purchase products rather than because they are ill or seeking public health advice. This suggests that pharmacists in community settings negotiate bodily complexity of a different kind than their hospital counterparts. Whereas complexity in the hospital setting is located in what is most certainly a singular *patient* body, in the community setting complexity is rooted in the ambiguity and volatility of multiple body identities, motivations and clinical destinations. It is challenging for pharmacists to combine these multiple bodies into a singular body found in the hospital setting given that these bodies are rarely brought together through interventions based on a convergent diagnosis.

This complex nature of the body also impacts on the nature of the community pharmacy space where the identity of pharmacy premises becomes ambiguous owing to the multiplicity of bodies within it. In this way, the pharmacy space was represented by Community Pharmacist 10 as taking on divergent meanings according to the needs of the particular bodies which entered it where *“a pharmacy can be different things for different people depending on what they want that particular day” (CP 10)*. As such, whilst the retail nature of the pharmacy space may be of secondary

importance for individuals seeking public health advice, the pharmacy as a therapeutic space may also be undermined by the potential for there to be *“nothing wrong”* (CP 10).

The expansion of the community pharmacy gaze to incorporate public health activities and bodies was understood by community pharmacists to have reorganised pharmacist/patient interactions and created new modes through which pharmacists physically interact with bodies. It was also thought to have necessitated the integration of a divergent set of skills into the performance of everyday community pharmacy work, as Community Pharmacist 2 showed;

“We’ve never actually touched patients before.... Pharmacists are generally not used to touching patients. Communication as well is not something that pharmacists in the past have needed much of because they were always hidden away in the dispensaries, whereas now pharmacists have got to get used to talking to people, taking their blood pressure, pricking their fingers, etcetera” (CP 2)

Within this quote it can be seen that the increased public health role of pharmacy has broadened the way in which community pharmacists engage with physical bodies. This role has, then, engaged practitioners with new practices of body work in which the body has increasingly become the object of a new form of pharmacy labour. This organisation of community pharmacy work around public health body work in contemporary public health concerns was also understood as being a key characteristic of future English community pharmacy practice and the pharmacy gaze. A number of respondents suggested that concerns about the future role of community pharmacy, particularly around increased de-regulation and online pharmacy, could be addressed through the diversification of everyday work into more public health-centred activities;

“I think community pharmacy can only increase its public health profile really. Get more involved in screening for things like sexual health...get more involved in some of the issues we’ve got around obesity, weight management problems” (CP 2)

This anticipated reconfiguration of the pharmacy gaze fits with Taylor’s (2005: 292) view of the future of community pharmacists as ‘the people’s doctors’ and current UK public health policy which positions community pharmacists as central practitioners in public health services (see Department of Health, 2008). This potential future of the pharmacy gaze raises questions about possible shifts in the nature of body work in pharmacy. For example, at present, the public health work of pharmacists is, generally, not what might be understood as ‘dirty’ but a move towards a focus on sexual health may bring more ‘matter out of place’ into the English community pharmacy.

Managing the complexity of bodies in both hospital and community practice was represented as a central feature of the performance of pharmacy work. To do this, bodies are rationalised and standardised to sit with medicines decisions-making processes. The most pervasive way in which this is carried out is through the use of testing devices and their numerical outputs to create what are called here ‘algorithmic bodies’.

Constructing Algorithmic Bodies

Creating algorithmic bodies involves the reduction of the complexities of the patient body into a series of numerical values and algorithms through the use of testing devices. These algorithms standardise bodies and are mobilised in decision making to manage complexity in both hospital and community pharmacy contexts, although the nature of them varies between these two settings.

In the hospital context, algorithms provide a set of numerical values and criteria through which prescribing and dispensing decisions can be made. These algorithms provide a way through which the patient body, and its complexities, can be more easily measured and linked with the most effective drug therapy regime in order to reduce the potential for drug toxicity. Moreover, the use of algorithms in hospital contexts supports the movement of patient bodies towards a common goal: their biological recovery, or at least stability, and removal from the hospital setting. Hospital Pharmacist 9 (an Oncology pharmacist) and 4 demonstrated the mobilisation of algorithmic approaches in the everyday work of prescription checking;

“In order to screen a prescription for chemotherapy you would need to check certain aspects of the patient” (HP 9- Oncology)

“You’re going to have to check that those criteria have been met before the drug’s actually released or dispensed” (HP 4).

Hospital Pharmacist 4 went on to provide examples of what these “criteria” of patient bodies might be in the case of chemotherapy;

“You don’t have to be neutropenic, your blood counts need to be in an appropriate range and your renal function has to be adequate before certain medicine will be released” (HP 4)

This construction of bodies in algorithmic terms was highly linked with testing activities and technologies where the outcomes of diverse, clinically relevant tests, such as those mentioned above, form the measurements of complexity and, therefore, the basis of prescribing and dispensing decisions. For pharmacists, the algorithmic construction of complex patient bodies was primarily located within the performance of prescription checking as part of dispensing work to ensure an appropriate 'fit' between the patient body and the medicine being dispensed for it. Further 'upstream' of pharmacists' and their checking work, these numerical test results also constitute the body in algorithmic terms for prescribers. Pharmacists are often also involved in these prescribing decisions in hospitals.

As well as enabling the management of toxicity for the benefit of patients' experiences of their medicines, this standardisation of hospital patient bodies through algorithms is also rooted in financial considerations. In hospital contexts where comparatively high-cost medications are prescribed, prescription and dispensing decisions are mediated by their financial implications and the construction of a bodily algorithm becomes a way of ensuring that money is not wasted through the dispensing of inappropriate medicines. A director of a hospital pharmacy department highlighted this in respect to new Oncology medicines;

"They are expensive and therefore we're a lot clearer than we used to be about protocols for treatment and criteria for treatment" (HP 6- Director of Pharmacy)

This articulated a clear link between the cost of new, innovative medicines and an increasingly rigorous pre-prescription body screening process in the hospital setting. Here, the practice of using algorithms was placed within a changing context where evidence and resources need to take priority: as Hospital Pharmacist 6 went on to say;

“It used to be that new drugs would come out and consultants would try them and see what happened whereas now it’s far more focused on the evidence base and making sure that patients are selected appropriately” (HP6- Director of Pharmacy)

These quotes also represent shifting approaches to hospital prescribing practices away from a “willy-nilly” (HP 9- Oncology), one-size-fits-all approach to one in which medicines are increasingly targeted at particular patient bodies based on the results of pre-prescription tests. A comment from Community Pharmacist 6 suggested that this targeted prescribing and dispensing model was particularly linked with hospital practice and the patient bodies within it given the costs and complexities of medicines in this setting, compared with those in the community which are less expensive and problematic vis-à-vis adverse effects;

“If we look at things like Codeine, you could just try it and if it don’t work you try something else because it’s so cheap to try” (CP 6)

For Hospital Pharmacist 10, this increased rationalisation of prescribing practices created a tension between saving money and supplying potentially useful medicines for patients, as she described in the case of transplant patients and new HIV medicines in the 1990s;

“They [hospital Trust] were really focused on trying to save money. And it was at the time where we did a lot of bone marrow transplants and had a lot of patients who were HIV positive...There were a

lot of people who had been infected through contaminated blood products...There were these new treatment options coming on-board all the time yet we were told to save money all the time” (HP 10)

In the community context, such rationalisation of prescribing and dispensing decisions through the use of algorithms is not as pervasive given the comparatively low cost and low toxicity of medications. Community pharmacists’ lack of access to patient medical records also means that pharmacists in this setting do not have enough patient data to standardise the patient body the same way as in the hospital setting. Moreover, whilst singular hospital patient bodies are, generally, moving towards a common goal of recovery and removal from the hospital space, the multiplicity of bodies in community settings means no such common goal exists. In other words, multiplicitous bodies in community pharmacy may be moving towards a diversity of goals, not just ‘recovery’. Nonetheless, testing technologies and the algorithms they produce form an integral part of the management of, in particular, *public health bodies* in community pharmacy practice. Testing in the community pharmacy context, then, reduces the body into a series of characteristics which can be related to public health measures, such as high cholesterol or blood pressure. Unlike in hospital contexts these bodily algorithms involve the construction of the body as a series of characteristics which enable individuals to become lay managers of their own health rather than for the purpose of prescribing and dispensing decisions and, ultimately, the removal of the body from the setting. As such, the algorithms produced in community pharmacy are not what we might understand as *therapy* algorithms as in the hospital setting.

Algorithmic bodies in community pharmacy are, instead, produced to identify potential health risks. Testing devices were presented in the data as central artefacts in the production of these algorithmic bodies. Community Pharmacist 3 highlighted the use of such testing devices to calculate potential cardiovascular disease risks;

“I was offering cholesterol testing as well as CVD [Cardiovascular Disease] calculations. So that was cholesterol, blood pressure test, heart monitoring and in that respect calculating patients’ CVD risk”
(CP 3)

In this way, the community pharmacy gaze is focused on the body as a site of potential health risk brought about by its own characteristics (for example, having high cholesterol or blood pressure) which are measured, through algorithms, against the normative levels set by public health campaigns. These algorithmic bodies, or parts thereof, then become the objects around which other body work activities, such as weight management programmes, become organised.

Discussion and Conclusion

This paper has examined the ways in which English hospital and community pharmacists interact with patient bodies both symbolically and physically in the everyday performance of work. It has been shown that changes to the organisation of pharmacy practice have altered pharmacists’ modes of engagement with patient bodies. This is particularly the case in the community pharmacy setting where the increased clinical and public health role of pharmacists has necessitated new forms of body work.

The findings have indicated that pharmacists cultivate a particular way of constructing and managing the patient body given their pharmacological expertise, conceptualised here as the pharmacy gaze. This notion of the pharmacy gaze extends Barber’s (2005) notion of the pharmaceutical gaze and captures the related notions of bodies, complexity, algorithms and risk, all of which are enacted upon, and through, bodies in everyday pharmacy practice.

It has been argued here that despite the divergence between the everyday work of pharmacists in hospital and community settings, the body is central to the performance of English pharmacy practice across these two contexts. In particular, it has been shown that the notion of bodies as complex entities, and the mobilisation of algorithmic methods for managing this complexity, are common to both hospital and community pharmacy practice. In hospitals, complexity has been shown to centre on a singular patient body where complexity arises from the interactions between this singular body and relatively toxic hospital medications. In contrast, the complexity of the body in community pharmacy has been shown to be rooted in the multiplicity of bodies which English pharmacists interact with in their multi-faceted, and sometimes unclear, role. In both hospital and community contexts, the production of algorithmic bodies through the use of testing devices was represented by the respondents as a way in which bodies are standardised and bodily complexity managed to achieve beneficial therapeutic and public health outcomes.

In developing this novel framework, this paper makes a number of contributions to the extant literature in the fields of the sociology of pharmacy practice and body work. In employing the notion of body work to examine pharmacists' engagement with patient bodies, this paper echoes Kerr's (2013) argument that the concept can be broadened to incorporate forms of work which are concerned with, but also remote from, the physical body itself. As such, it is shown here that *symbolic* processes of constructing bodies may also usefully be understood as forms of body work. The notion of algorithmic bodies also makes a novel contribution to this field, particularly around decision making. This framework may also prove useful in understanding the ways in which bodies are constructed and managed in other healthcare practices. In addition, this algorithmic bodies framework may also provide an analytical tool for analysing patient's understandings of their medicines regimen and the extent to which these regimen are 'working'. Whilst patient understandings of medicines has been explored to some extent elsewhere (Cohen et al. 2005, Webster et al. 2009), the algorithmic bodies framework may offer a novel perspective.

There are a number of limitations to this present work. Firstly, the data presented here is based on interviews rather than observational methods. This is because this data is part of a larger study on PGx in pharmacy, for which interviews were the most appropriate methods for eliciting reflections about past, present and future practice. It would, however, be beneficial for future work to investigate body work in pharmacy through the use of observations and contextual inquiry methods. Secondly, the sample presented here is not representative of all UK pharmacists. In the case of hospital practitioners in particular, obtaining a representative sample of all hospital pharmacists would be extremely challenging given the diversity of specialisms that hospital pharmacists practice in. The strong focus on Oncology pharmacists in this paper is indicative of the focus of the wider project on PGx, in which Oncology is a particularly notable field. Future work in this area would benefit from a more representative sample of respondents taken from a more diverse range of clinical specialisms. Thirdly, it was particularly challenging to recruit community pharmacists for participation. Given the time constraints in this particular project, snowball sampling proved to be the most effective method. Securing co-operation from professional bodies such as the Royal Pharmaceutical Society and the National Pharmacy Association may be useful, as would placing advertisements in pharmacy publications. However, there may also be scope for future researchers to use social media tools such as the pharmacy-forum.co.uk website, Twitter or YouTube.

Currently UK health policy also offers a number of directions in which this present work could be advanced. Firstly, the current move towards medicines 'optimisation', in which patients and their wider cultural practices are increasingly involved in prescription decision making (Cutler 2011), may provide a useful lens through which to re-engage in research around pharmacists' symbolic construction of medicines and bodies in everyday practice. In this vein, the framework of the pharmacy gaze proposed here may provide a useful analytical tool to understand the ways in which medicines and patient bodies are dually constructed in pharmacy/patient encounters to arrive at an optimised therapy regime. Moreover, bodily algorithms may also prove to be a useful way through

which the complexities of bodies, medicines and patients' cultural lives can be captured within an optimisation framework. Secondly, the formation of the policy body Public Health England in April 2013 places pharmacists at the centre of public health campaigns and practices following the implementation of Healthy Living Pharmacies in some areas. This may potentially have wide ranging impacts on pharmacy practice such as shifting professional identities and new forms of body work characterising everyday practice.

Endnotes

1 This total is more than 100% as pharmacists may be employed in two practice settings at the same time.

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References

Anderson, S. (2001) The historical context of pharmacy. In Taylor, K and Harding G. (eds.) *Pharmacy Practice*. London: Taylor and Francis.

Barber, N. (2005) The pharmaceutical gaze: The defining feature of pharmacy? *The Pharmaceutical Journal*, 275, 78.

Berg, M. and Bowker, G. (1997) The multiple bodies of the medical record, *The Sociological Quarterly*, 38, 3, 513-537.

Bhakta, H. (2010) Moving from the community to hospital. *Tomorrow's Pharmacist*. [Online: http://www.pjonline.com/tomorrows-pharmacist/career_options/hospital/move_from_community]

Birenbaum, A. (1982) Reprofessionalization in pharmacy, *Social Science and Medicine*, 16, 8, 871-878.

Cacchioni, T. and Carol Wolkowitz, C. (2011) [Treating women's sexual difficulties: the body work of sexual therapy, *Sociology of Health and Illness*, 33, 2, 266–279.](#)

Carmel, S. (2012) The craft of intensive care medicine, *Sociology of Health and Illness*, advanced online edition: <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9566.2012.01524.x/abstract>

Clemerson, J., Payne, K., Bissell, P. and Anderson, C. (2006) Pharmacogenetics: The next challenge for pharmacy? *Pharmacy World and Science*, 28, 3, 126-130.

Cohen, D., McCubbin, M., Collin, J. and Pe'rodeau, G. (2001) Medications as social phenomena, *Health*, 5, 4, 441–469.

Cohen, R.L. (2011) Time, space and touch at work: body work and labour process (re)organisation, *Sociology of Health and Illness*, 33, 2, 189-205.

Cutler, S. (2011) What does medicines optimisation mean for pharmacy professionals? *The Pharmaceutical Journal*, 287, 606-607.

Denzin, N. and Mettlin, C. (1968) Incomplete professionalization: The case of pharmacy, *Social Forces*, 46, 3, 375-381.

Department of Health (2008) *Pharmacy in England: Building on Strengths- Delivering the Future*. London: Department of Health.

Dingwall, R. and Wilson, E. (1995) Is pharmacy really an incomplete profession? *Perspectives on Social Problems*, 7, 111-128.

Edmunds, J. and Calnan, M. (2001) The reprofessionalisation of community pharmacy? An exploration of attitudes to extended roles for community pharmacists amongst pharmacists and general practitioners in the United Kingdom, *Social Science and Medicine*, 53, 7, 943-955.

Foucault, M. (1975) *The Birth of the Clinic: An Archaeology of Medical Perception*. New York: Vintage Books.

Gale, N.K. (2011) From body-talk to body-stories: body work in complementary and alternative medicine, *Sociology of Health and Illness*, 33, 2, 237-51.

Gimlin, D. (2007) What is body work? A review of the literature, *Sociology Compass*, 1, 1, 353–70.

Harding, G. and Taylor, K. (1997) Responding to change: The case of community pharmacy in Great Britain, *Sociology of Health and Illness*, 19, 5, 547-560.

Jamie, K. (2011) Might community pharmacists have a role in personalised medicine? *The Pharmaceutical Journal*, 287, 693-694.

Jamie, K. (2012) *Pharmacogenetics and the Pharmacy Profession: A Sociological Analysis*. University of York: Unpublished PhD Thesis.

Jewson, N.D. (1976) The disappearance of the sick-man from medical cosmology, 1770-1870, *Sociology*, 10, 2, 225-244.

Kerr, A. (2013) Body work in assisted conception: exploring public and private settings, *Sociology of Health and Illness*, 35, 3, 465-478.

Lupton, D. (1997) Foucault and the medicalisation critique. In Petersen, A. and Bunton, R. (eds.) *Foucault, Health and Medicine*. London: Routledge.

Måseide, P. (2011) Body work in respiratory physiological examinations. *Sociology of Health and Illness*, 33, 2, 296-307

McDowell, L. (2009) *Working Bodies: Interactive Service Employment and Workplace Identities*. Oxford: Wiley-Blackwell.

May, C. (1992) Nursing work, nurses' knowledge, and the subjectification of the patient, *Sociology of Health and Illness*, 14, 4, 472-487.

Mesler, M.A. (1991) Boundary encroachment and task delegation: Clinical pharmacists on the medical team, *Sociology of Health and Illness*, 13, 3, 310-331.

Mauss, M (1973) Techniques of the body, *Economy and Society*, 2, 70-88.

Neysmith, S.M. and Aronson, J (1997) Working conditions in home care: negotiating race and class boundaries in gendered work, *International Journal of Health Services*, 27, 3, 479–99.

Pickstone, J.V. (2000) *Ways of Knowing: A New History of Science, Technology and Medicine*. Chicago: Chicago University Press.

Ryan, K., Bissell, P. and Traulsen, J. M. (2004) The work of Michel Foucault: Relevance to pharmacy practice, *International Journal of Pharmacy Practice*, 12, 1, 43-52.

Seston, L. and Hassell, K. (2009) *The Pharmacy Workforce Census 2008: Main Findings*. London: Royal Pharmaceutical Society of Great Britain.

Shilling, C. (2011) Afterword: Body work and the sociological tradition, *Sociology of Health and Illness*, 33, 2, 336-340.

Stone, P. and Curtis, S.J. (2002) *Pharmacy Practice (Third Edition)*. London: The Pharmaceutical Press.

Taylor, D. (2005) The apothecary's return? A brief look at pharmacy's future. In Anderson, S. (ed.) *Making Medicines: A Brief History of Pharmacy and Pharmaceuticals*. London: The Pharmaceutical Press.

Twigg, J. (2000) Carework as a form of bodywork, *Ageing and Society*, 20, 4, 389–411.

Twigg, J., Wolkowitz, C., Cohen, R.L. and Nettleton, S. (2010) Conceptualising body work in health and social care, *Sociology of Health and Illness*, [33, 2](#), 171–188.

Wadelius, M. and Pirmohamed, M. (2006) Pharmacogenetics of Warfarin: Current status and future challenges, *The Pharmacogenomics Journal*, 7, 2, 99-111.

Webster, A., Douglas, C. and Lewis, G. (2009) Making sense of medicines: 'Lay pharmacology' and narratives of safety and efficacy, *Science as Culture*, 18, 2, 233-247.

Williams, S.J. (2003). *Medicine and the Body*. London: Sage.

Wolkowitz, C. (2006) *Bodies at Work*. London: Sage.